

LOAD BALANCING IN SET TOP CABLE BOX ENVIRONMENT

ABSTRACT OF THE DISCLOSURE

A scalable messaging system for data transmission between the network devices, such as set top boxes, and a central system server, such as a server which maintains a database of event logs for the network. Individual routers at the data center broadcast an announcement packet indicating that they are available to accept messages from the network devices. The announcement message contains at least an identification of the router and the manner in which messages may be sent to it, e.g., one or more connection socket numbers and/or network addresses. The frequency at which availability messages are sent by the routers is preferably dependent upon the relatively loading of the individual router. Thus, the more heavily loaded a particular router becomes, the less often it will broadcast an availability message; the more lightly loaded it becomes, the more often such messages are broadcast. The network devices then transmit messages to the data center only in response to having received such a router availability announcement. The information in a router availability message can be used in various ways to construct a payload message back to the data center, such as by using ports numbers, persistent identification numbers, or Media Access Control (MAC) layer addresses, depending upon the topology of the data network. This protocol thus permits control over the generation of messages, such as connection request messages, which might otherwise flood a network with large numbers of end node devices.

TOP SECRET//SI//FOUO